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AUTHOR Low, Jean Irene
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ABSTRACT

A study investigated the importance adults assign to various techniques used in the design and production of print educational material. Subjects, 103 adults who regularly receive printed educational information and professionals engaged in the production of such information, completed a survey including demographic information, time spent in reading selected print materials, reasons why adults read, and importance ratings on 19 criteria regarding content and typography/graphic design considerations for print information. Results indicated that the subjects (two-thirds of whom were women) wanted clear and easily understood information that was timely and up-to-date. Results also indicated that they did not see a need for color, varied type styles, and differing page formats, and that the adult reader and the professional had very similar reading activities, importance ratings of reading reasons, and time spent each day reading. (Six tables of data are included; 16 references, the survey instrument, and an appendix of data are attached.) (RS)

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UNIVERSITY OF MINNESOTA

A STUDY OF THE IMPORTANCE OF SELECTED GRAPHIC PROCEDURES USED IN PRINT INFORMATION FOR ADULT READERS

A PLAN B PAPER SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT FOR THE DEGREE OF
MASTER OF ARTS IN EDUCATION

BY

JEAN IRENE LOW

MINNEAPOLIS, MINNESOTA

APRIL 1989

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CHAPTER 1

INTRODUCTION

It was written that to step into someone's home is to step into that person's soul. The same type of a comparison may be made in regard to the presentation of a printed piece of educational information. The design or layout of a printed piece of information can draw one into the copy of the informational piece and thus into the soul of the information.

The techniques used in the design and layout of a given piece may not reveal the soul of the piece to each person picking up the given information piece. Therefore, this study was undertaken to investigate the importance adults assign to various techniques used in the design and production of print educational information. The amount of time adults spend in reading along with why they read were also investigated in order to identify if such data could be useful in the design and production of print educational information for adults.

General Background of the Problem

Educational organizations, agencies, and businesses continue to communicate with and educate adults through

print materials. These printed materials may take the form of newsletters, leaflets, bulletins, brochures, handbooks, fact sheets, and other miscellaneous names given to differing formats depending upon the producer of a given piece.

Changes appear to be happening daily in the area of print communications. Newspapers have taken on a new look due to new techniques in printing. The competition with other forms of communication is also affecting the changes seen in print information today.

One sees color and colored graphics added to the pages of newspapers and magazines. Color and graphics are denoting special sections of printed copy giving readers an added guide in the processing of a piece of print copy. Our aging population is benefiting from books in large print and on audio tape. These are a few of the changes of note.

The major publishing companies have focused new magazines at specific target interest groups. The magazine *Lears*, less than a year on the market, is targeted at women over forty. It provides one with an additional example of print copy for an older audience. Some have indicated that there has been an explosion in the number of newspapers and other types of publications for the mature reader. In *Age Wave*, Dychtwald and Flower (1989, 52) noted there was one such publication available in 1973, eight in 1977, with the number rising to sixty in 1985, and to nearly two hundred by

mid-1988. This leads one to question if various age categories require educational materials that are produced especially for them.

One also sees established publications changing the format of their publications. Educational organizations are also changing the way printed materials are produced with the availability of computer desktop publishing programs. The look of printed copy has changed as more print pieces are processed on desktop systems. A professional typeset look with a wide range of graphics and layout techniques are possible through the capabilities of this process.

These are a few of the techniques being used in the area of professionally produced communications. The question is should they also be used in the design and production of educational print materials on a much wider scale today.

The success of printed materials contributing to learning may be determined by the appearance of a given piece. The reader needs to attend to and become interested in the printed educational copy so that each person ends up reading it. According to Dr. James Ogilvy, once Director of Research for Values and Lifestyle Study at Stanford Research Institute, one ". . . informs through reading and enraptures through art" (Dychtwald and Flower 1989, 288). Maybe enrapturing through the art a given piece of print can communicate better.

The educator, writer, and editor involved in the development of print educational information believe that the written word is what makes a print educational piece effective. The professional with knowledge of typography and graphic arts is concerned about the kind and size of type, photographs and illustrations, color and layout of the informational piece for it to be effective. It is not known if the things the adult reader believes are important are used as a basis in designing print educational materials. Knowing what is important to the reader, may be helpful in the development of print educational material. Such information may result in better communications and enhanced learning through print materials developed for the adult reader.

Purpose of Study

The purpose of this study was to obtain information that could improve print educational materials that are prepared for adults. The specific objectives were:

(1) to determine what graphic design criteria used in the production of a print educational piece are important to the adult reader,

(2) to compare the views of professionals involved in the production of educational print material with those of the adult readers in regard to content and typography/graphic design criteria,

(3) to assess the extent of reading activities of a sample number of adults, and

(4) to determine the importance adults assign to why they read.

Study Plan

The primary vehicle for this study was a survey on print information mailed to 170 adults. One hundred and fifty of the survey sample were adult readers of Minnesota Extension Service print educational information in a metropolitan county in the state of Minnesota. Twenty adults of the survey sample were professionals engaged in the design and production of Minnesota Extension Service print educational materials. The data collection for the study was undertaken and finished between February 1 and March 4, 1989.

The survey instrument was developed after identifying content and graphic design criteria through readings and through informal interviews with professional staff of the Minnesota Extension Service. Three professionals involved in evaluation were also used as resources in the development of the tool for the study. The survey was piloted with three adults to assess appropriate changes and the time required to complete the instrument.

The data collected from 103 returned surveys were hand tabulated; frequencies and percentages were computed. The mean for each sample was calculated.

Significance of Study

The information generated from this study is of value to educators, writers, editors, and other professionals involved in the design and development of print educational information. The information could be used in decisions that increase the readability of print educational copy as well as aid in the cost considerations regarding production. The study may increase educators' sensitivity to adult reader needs regarding print educational copy. Print materials are a resource that many adults turn to as they engage in learning through self-directed efforts.

Organization of the Paper

This paper begins with an introductory chapter which is followed by a review of the information gained through reading. Chapter three deals with the twelve steps involved in the methodology of the study. Chapter four relates the findings from the survey used to collect data. The final chapter provides one with the summary, implications, and conclusions of the study.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

The focus of this study was to determine the importance the adult reader gives to selected content and typography/graphic features used in the presentation of print educational information. The professionals in communications and education use information from theory and experts in the design and production of print educational information. However, data substantiating the importance of these design principles from the viewpoint of the adult reader are not available.

To become aware of and to review relevant literature, a computer search was undertaken through the Education Resource Information Center (ERIC). The ERIC search was done the latter part of October 1988. The key descriptors used in the search were: visual presentation, graphic arts, visual arts, adult printed educational materials, readability, and utilization. This search produced a listing and description of forty citations as possible resources. In a review of this listing, only six were thought to be of potential benefit. Two sources

subsequently proved to have value for this study. Those two sources and articles from *Interlit*, a publication designed originally for Christian organizations publishing in developing countries, were most helpful. The magazine is a source of information on publishing and typography. Presently *Interlit* focuses on offering technical advice with the goal of stimulating planned publishing efforts by its readers. It is one source that can serve the educator who is designing and producing educational materials who does not have backgrounding in typography and graphic arts.

An understanding of the role of communications can be gained through a number of sources. *The Technical Writing Teacher*, a periodical published three times a year by the Rhetoric Department of the University of Minnesota for the Association of Teachers of Technical Writing, is one suggested resource. Charles Kostelnick's article "Visual Rhetoric: A Reader-Oriented Approach to Graphics and Design" (1989, 77-88) is an example of the type of resources that serve the educator/communicator in the design and production of print materials. The current word processing capabilities can also aid the professional in their communication endeavors.

Principles for Communication

Rich Nickel, a designer of publications and former art director, suggests that the layout of a print piece can

hinder communications. The need for low-cost production, the lack of knowing and of applying techniques or technology, and the lack of consideration of the needs of the reader are some of the reasons why effective communication does not occur.

Nickel (1982, 6-7) suggests the following seven principles for the communicator:

(1) Try not to overwhelm the reader. One should use their writing abilities to create headings and blurbs and their graphic abilities to create white space to help the reader progress through the information.

(2) Use bigger but fewer photographs. The impact and communication conveyed by two photographs in a space planned for six is notable.

(3) Direct the reader through the print information. Cause the eye of the reader to flow from photographs/illustrations, headlines, captions and blurbs so learning takes place before reading of the content starts.

(4) Do not be confined to a format. In using varied column widths, putting items at an angle or using bold or subtle color excitement in the printed educational page is created.

(5) Use typography well. This relates to the type of columns, style and size of type, leading and bolding of headlines.

(6) Use appropriate graphic devices. Any device can interfere with the communications process. Some graphic techniques that are used are rules, borders and boxes, color tint blocks, and line conversions.

(7) Think in terms of the layout of the entire piece if it is one or many pages. One needs to review not only the content but the layout of the various elements so they will communicate.

If one is able to understand and utilize the seven principles suggested, more information may be needed by the educator/communicator involved in the design and production of print information. Therefore, in-depth information on typography and the various aspects of graphic arts are the focus of the following sections.

Typography

Craig (1980) defines typography as the art and process of working with and printing from type. Moen (1989) adds that typography is the arrangement and effect of type. Typography relates to many of the decisions the educator/writer/editor/communicator/graphic artist/desktop publisher needs to make regarding the production of a given

piece of print copy. Typography may also be an important factor in a reader's decision to spend time reading a piece of print information. The era has past when typing a piece of information is the final step prior to duplication of that piece.

The style of type to be used, how large, how tightly organized, and whether the margins of the type columns line up justified or ragged are some of the facets of typography. Another part of this topic is knowledge of the many different typefaces possible. Typeface styles are printed on charts for the individuals's convenience in comparing and selection.

Terms used in typography and their definitions are the following:

(1) Serif Type. Type made with thick and thin strokes having short line stemming from the ends of the letters (Nickel 1982, 6). Nickel states this style of print is more easily read. Ragont (1988, 16) suggests this style of type is serious, business like, and geared toward adults.

(2) Sans Serif Type. Type without the serif lines making the letters appear quite plain. It has also been referred to as Gothic (Moen 1989). Ragont (1988, 16) suggests subject matter directed at teens use this style because it appears less scholarly.

(3) Justified Columns. Columns of type which have even edges at both sides. The equipment adjusts the spacing between the words so that each line is filled fully. This type of column is said to be formal (Ragont 1988, 17).

(4) Unjustified or Ragged Right Columns. Columns of type which have an even left margin but with a right margin that fluctuates. This is said to produce a tighter look within each block of text and eliminates much hyphenation (Ragont 1988, 17).

(5) Leading. The amount of space, measured in points, from the base of a line of type to the base of the line below it. Leading determines the amount of white space above and below a line of type (Ragont 1988, 17). Nickel (1982, 7) suggests 10 over 11 points as a good general specification.

(6) Pica. A unit of measurement. Six picas equal one inch (Ragont 1988, 17).

(7) Points. A unit of measurement. There are twelve points to a pica (Ragont 1988, 17).

The size of type suggested for various types of print copy include the following:

(1) Newsletter copy

10 point (Ragont 1988, 17)

(2) Magazine or book

11 or 12 point (Ragont 1988, 17)

(3) Children's books

12-14 points (Ragont 1988, 17)

(4) Body of copy

9-11 points (Nickel 1982, 6)

10 points (Arnold 1988, 7)

(5) Blurbs

14-18 points (Moen, 1989)

(6) Quotes

1 or 2 points larger than the other copy in bold or italic (Thompson 1988, 11)

Graphic Arts/Design

Graphic design elements have been credited with providing an identity and a long lasting positive impression in the selling of many products. The ability of graphics to communicate may help create the graphic arts revolution that is touching many areas of our lives. The changes in graphics seen in the newspaper, book, and magazine sector suggest the question of how this will relate to print educational information. Guidelines for typography have been discussed. When a printed communication is being designed, according to Broekhuizen (1979, 26) the design principles of balance, contrast, rhythm, proportion, and unity serve as guidelines and must work together to provide for a successful message presentation. Ragont (1987, 21) suggests the following four general points for designing a

publication which could be educational in nature. The four points are:

(1) achieve attractive design without sacrificing readability,

(2) design is consistent with the topic or theme of the piece,

(3) design for appeal of the targeted readership, and

(4) have design reflect the philosophy of the publisher.

These guides and the art principles along with graphic devices used together can result in successful communications through print materials. The following section provides an explanation of graphic consideration:

(1) Borders, boxes, or frames

Lines used to contain, inset, and emphasize content related to the body of the piece (Nickel 1982, 7).

(2) Color

A hue such as red, yellow, and blue in contrast with black, white, or gray. Color is suggested for titles, rules, graphs, and charts. Color is so prevalent in publications today that it is said that there may be misunderstanding about its effectiveness in information design (Nickel 1982, 5).

(3) Illustration/Photographs

A visual tool conveying a message that communicates clearly and powerfully, making ideas concrete, capturing interest while working with the headlines, subject and other visual elements of a given piece yet is technically reproducible (Chu 1988, 14).

(4) Logo/nameplate/flag

A design that is legible, distinctive, appropriate, and reflects the subject, theme, organization and yet provides for flexibility (Arnold 1988, 7).

(5) Rules

A plain line in black or a color used to highlight, divide, signal sections, provide a base, or to "hang" type from (Nickel 1982, 7).

(6) White space

The open space breaking up solid print copy which includes margins. It is suggested that 15-20 percent of a page be white space to invite the reader into the copy (Ragont 1987, 21).

Research

Daryl Moen (1989, 12) suggests that legibility of print has been studied by researchers in several fields but design research is rare. Much of the academic research has been

confined to classroom experiments with the results not applicable to the general public. The significant research on design characteristics being conducted by research departments of newspapers or their corporate headquarters is seldom revealed. One research study was found through ERIC and is supportive of this study. Sandra Ernst and Roger Kahle's study dealt with typographic elements in print advertising. In the Ernst and Kahle study, fifty-two adults were asked to react to twenty variations in print advertisements reflecting current trends in fashionable and conservative advertising typography. The subjects were asked to sort the sample advertisements twice, once for appeal and then for perceived advertising effectiveness. The two hypothesized approaches, fashionable and conservative, emerged as distinctive factors but did not dominate. The results of the study were reported as clouded by the typographic variables and the content or art work of the advertisement. Examples of fashionable and conservative typography in 1979 were provided.

Five research studies reported in Moen's book *Newspaper Layout and Design* speak to the issues of graphic design in print information. Click and Stempel in 1974 researched readers in four cities on the preference to different newspaper formats. The readers were asked to rate sample newspaper pages on a scale of 1-10. The respondents overwhelmingly endorsed the modern formats over the

traditional ones. The modern format samples had six columns with low story count and a horizontal modular form. Traditional samples used in the study were vertical and eight columns in format (Moen 1989, 12).

In Pipp's 1985 study, testing reader reaction to a redesigned newspaper beyond the content the most important elements to readers were: order, organization, typography, attractiveness, photography, and color (Moen 1989, 13).

In 1986 Garcia and Bohle conducted a test on the importance of color on reader perceptions, and readers preferred color to black and white (Moen 1989, 13).

Another design study was done by Bain in 1980 at Indiana University. College students were asked to react to two versions of the student newspaper. The first four findings related to the use of jumps, the moving of copy to another column or page, with the following three findings at issue for this study. They found readers liked headlines, large pictures rather than small ones, and readable type with a modular format (Moen 1989, 14).

Another study discovered by Moen was done by the Gannet company in 1978. Curley reported that 5,000 readers in four cities were interviewed. The following was reported:

(1) Production, packaging graphics, and appearance are important in determining satisfaction with the paper.

(2) Graphics and packaging are especially important to younger and occasional readers.

(3) A significant minority of readers (i.e., younger ones) want color pictures.

(4) Type should be larger and more readable (Moen 1989, 14).

A second resource from the ERIC search was the monograph *Writing for New Adult Reader* by H. S. Bhola. It presented information for new readers in developing countries in the context of lifelong learning and improvement in communication. Explanations of the role of illustrations, typography, and the problems of publishing for new readers were addressed. The item of note from this resource was thirteen reasons why people read by William Slray and Bernice Rogers, two American reading specialists (Bhola 1981, 36).

Summary

Design research for print information is limited. Six studies spoke to the issues of graphic design considerations used in print information undertaken in this study. The considerations noted from research were: layout or format, typography decisions, illustration/photography, and color.

The publication *Interlit*, a current and concise source of information on typography and graphic arts for producers of print material, is valuable. The information *Interlit*

provided on typeface, style, and type size, leading, and column style was background for the study. The graphic design concerns of borders, rules, logos, illustrations, typography, and layout were included in the survey questions adults were asked to rank in this study.

CHAPTER 3

METHODOLOGY

This study was designed to secure an understanding of what content and typography/graphic features are viewed by adults as important in print educational information. It was also designed to compare the perceptions of adult readers with those of professionals who are engaged daily in the development and production of print educational information. This chapter is concerned with the methodology of the study, which included the development of a survey instrument which was mailed to 170 adults. The data collected from the survey sample of 103 were tabulated and analyzed. The study involved a twelve-step 23 process, which is reported here. The limitations of the study conclude this chapter.

Development of the Study

Identification of Survey Items from Literature

The development of the survey instrument began with an ERIC search to secure information about specific typography and graphic features to include in the survey. Additional sources such as the publication *Interlit* were helpful in identifying the items for this study. For example,

typography which deals with the style, arrangement, or appearance of typeset matter is a part of journalism and graphic arts but is often an unknown subject to an educator. This educator may be the sole person in the design and production of a print educational piece.

From the literature it was clear that the size of print type, style of type, photographs or illustrations, color and layout were key typography/graphic items to be addressed. Many guidelines are available for the professional to use.

The section of the survey on reading activities was included to provide information as a basis for examining how much reading adults do on a daily basis, the type of print material that adult readers attend to on a daily basis, and the amount of time they have for reading, which may be helpful information in the development of print educational copy.

The section on why one reads was the direct result of a finding in the literature. This listing of thirteen reasons why one reads was developed by two reading specialists and listed in a recent report. Identifying why adults read may be another piece of information that would be helpful to the producers of educational print information.

Identification of Survey Items from Interviews with Specialists

Short open-ended interviews were conducted with three graphic artists working with the Educational Development

Systems unit of the Minnesota Extension Service. They were asked to identify problems and concerns in regard to graphic decisions being made in the production of print educational information. The content items of clarity and timeliness were identified through talking with professional writers of educational material.

Survey Development

A self-administered survey with four sections was developed between November 1988 and mid-January 1989. One section of the survey was developed to secure the importance ratings of adult readers on the content and typography/graphic criteria for printed educational materials. Items one through five of this section related to content. They were suggested by specialists involved in the writing of print educational materials. Items six through nineteen related to typography/graphics concerns in the design and production of print educational information. These thirteen items were the direct result of readings and the interviews with specialists in the area of graphics.

All nineteen items in this section were set up to be rated on a four-point scale with four being considered extremely important; three, very important; two, slightly important; and one, not important. Five was the number assigned for use by those responding when they were undecided about an item's rating.

Section two of the survey was developed to secure the importance ratings of adults on thirteen reasons why people read. The items which were found in the literature were set up to be rated on the same four-point scale used in section one of the survey. Five was again the number response for use by those undecided in the assignment of a rating to a given item.

Section three of the survey was developed to collect information on the reading activities of the adults participating in the survey. Seven items were listed for adults to indicate their reading frequency rate. The following six-point rating scale was provided: six, indicated such reading being done each day; five, indicated the reading activity was undertaken three to four times a week; four, was reserved to report the reading activity was engaged in once or twice a week; three, indicated reading the listed item less than twice a month; two, showed a given reader was reading the indicated publication less than twice a year; and one, stated their not reading a given item at all. Two other items in this section asked them to identify how they processed a new piece of print information and to state the minutes and hours that they found themselves reading each day.

Section four of the survey asked five questions which collected the basic demographic data about the survey participants. The questions dealt with age, gender,

education, residence, and level of involvement in Minnesota Extension Service programs.

Drafts of the instrument were reviewed in mid-January by two program evaluation specialists, a material development specialist, and a faculty member in adult education.

Selection of the Sample

A sample of 150 adult readers of Minnesota Extension Service print material and twenty professionals engaged in the production of Minnesota Extension Service print educational copy were the target audience for the survey. The county extension director in one metropolitan county was contacted in December 1988 regarding permission to survey a sample of adult program participants in that county. Permission was granted to use their newsletter mailing list as a basis for the selection of 150 adults for the study. This county was selected because it had a newsletter mailing and the population included adults in each of the four geographic categories set down for this survey. The four categories were: one, living on a farm; two, living in rural non-farm area or in a town of 10,000 or less; three, living in a town or city of 10,000 to 50,000; and four, living in a metropolitan area in a city of over 50,000.

The twenty professionals were members of the Educational Development Systems unit of the Minnesota

Extension Service. They were members of one of the following six core teams: agriculture, home economics/community economic development, 4-H, associate directors/integrated programs/natural resources, experiment station, and director/EDS. The twenty were serving in one of the following roles on a given core team: program designer/developer, editor, development leader, and graphic designer. These professionals engaged daily in the design and development of print educational materials for adults.

The sample of 150 adult readers resulted from the use of a newsletter mailing list. This computer printout listed the names and addresses of adults by zip code groups. Each name was numbered. This resulted in identifying 2,016 different names on the listing. The last twenty-one names on the list were not numbered because they were out-of-county addresses. A random numbers table from *The Handbook of Statistical Tables* was used to secure the sample of adult readers for the study. Two hundred fifty random numbers were recorded in order of appearance on the table to have a supply of additional alternative numbers in reserve due to the decision not to mail to businesses, churches, addresses where "resident" rather than the individual's name was listed, and any extension personnel included on the county listing. To arrive at the 150 contacts needed for mailing the survey, two hundred random numbers were used.

Pilot Study

During the latter part of January in 1989, a pilot study was conducted individually with three adults. Two were women, ages 49 and 70, both Extension program participants in a county other than the one selected to participate in the survey sample. One Minnesota Extension professional, a woman 45, also worked through the survey.

These women were asked to identify confusing and/or unclear instructions and questions, to indicate whether they felt a rating could be done for each of the various categories identified, and to identify their concerns regarding the completeness of the items included. One suggested that the survey would be more easily read if each section was kept to a single side of a page. Another suggested that section three should be placed first in the survey. This suggestion was not carried out because it dealt with information that was not the most important focus of the research study. Therefore, the results of the pilot were used or considered prior to the final printing of the survey. See appendix 4 for a copy of the mailed instrument. Testing for reliability of the instrument was not done. The validity of the questionnaire that was examined was face validity and content validity.

Cover Letter Development

A different cover letter was developed for each of the two survey sample groups. Each of the cover letters was designed to be no longer than one page, yet tell what the study was about and why it was important to respond, extend a promise of confidentiality, explain the identification number and use of the study, and express appreciation for assistance. See appendix 2 for a copy of the cover letter sent to the county reader sample. See appendix 3 for a copy of the cover letter sent to the twenty professionals who received the survey.

Human Subjects Committee

Application for exempt status with the Human Subjects Committee at the University of Minnesota was requested through submission of the application form. Permission to proceed with the study was secured on January 26, 1989 (see appendix 1).

Mailing Process

On February 1, 1989 the survey on print information was mailed to the one hundred fifty selected adults from the county newsletter mailing list. Each letter was hand-signed, and each given a code number so that those not having returned the form could be contacted with follow-up inquiry. A self-addressed envelope with a stamp affixed was enclosed. The twenty professionals, members of the EDS unit

of the Minnesota Extension Service, were mailed the cover letter, survey form, and return envelope at their work locations on the St. Paul campus of the University of Minnesota. Sixty-five surveys were returned through the mail within the first eight days of mailing. This was a 38 percent return rate at that point in time.

Reminder Card Development

A reminder card was developed and sent to the one hundred five subjects who had not returned their surveys on February 9, 1989. See appendix 5 for a copy of the reminder card sent.

Seven phone calls were received following the mailing of the reminder card. Three individuals requested the mailing of the information. Four of those calling stated that they would not be completing and returning the survey.

Collection of Data

There were one hundred and three surveys returned for tally. This was a 60 percent return rate. The twenty professionals had a 100 percent return rate while the adult reader sample had a 55 percent (N = 83) return rate.

The survey had been designed so that a personal computer with the use of the software program called *Stat Pack* could be used in the tabulation and analysis of the data. However, hand tabulation of the data was done.

Surveys with missing data were tabulated under a no response category when necessary for a given item.

The percentage for importance or frequency was recorded for each survey item. The means for appropriate items in the survey were computed.

Prepare the Report

The report of the study was drafted for review and revision during the month of March in 1989. The final draft was done in April.

Budget Review

A budget for the study had been prepared prior to printing the survey. It was reviewed with expenses reported and paid. See appendix 7 for information on the cost of the printing and mailing involved with this study.

Limitation of Study

The findings from this study have some limitations in terms of the extent to which they can be generalized.

(1) The response rate for the 170 subjects was 60 percent. As noted earlier, there was a 100 percent return rate from the professionals and a 55 percent return rate from the adult readers sample. Although efforts were made to realize a higher return rate, this was the end result. No attempt was made to determine whether subjects who

refused to participate in the data collection phase were different from those who returned the survey.

(2) The restriction of securing responses from adult readers in one county who were identified through one adult education organization may limit the generalization of the results.

(3) The subjects did not have a single print educational source on which to base their ratings. Each respondent based his/her responses on his/her experiences with print information. This resulted in a potentially wide range of experience upon which those responding to the survey drew from.

(4) There are limitations also in the survey instrument in that no reliability test was done and validity tests were limited to face and content validity.

(5) The subjects did not have a definition of what reading entailed when asked to report on reading activities.

It is with these limitations the data and findings are offered for consideration.

CHAPTER 4

FINDINGS

This chapter provides the findings of the adult readers' survey on what is important to them regarding the presentation of print information. There are four sections of survey findings from the forty-six questions asked. One section deals with considerations for readable print information; the respondents rated the importance for each of the nineteen criteria. In another section, the subjects' importance ratings of reasons regarding why they read are reported. The frequency levels of various reading activities were obtained in a third section. The fourth section of the survey collected demographic information on the survey population and is the first section to be reported.

Characteristics of the Sample

The eighty-three persons (55 percent) in the adult reader sample along with the twenty professionals (100 percent) had the following characteristics presented in table 1.

Age wise, the highest percentage of adult readers returning the survey were in their thirties

Table 1.--Demographic Characteristics of Survey Sample (N = 103)

	Adult Reader		Professionals	
Variable	(N)	(%)	(N)	(%)
Age				
Teens	1	1	-	-
Twenties	3	4	1	5
Thirties	24	29	4	20
Forties	13	16	13	65
Fifties	13	16	1	5
Sixties	17	20	1	5
Seventy or over	11	13	-	-
No response	1	1	-	-
Total (age)	83	100	20	100
Gender				
Male	29	35	10	50
Female	52	63	10	50
No response	2	2	-	-
Total (gender)	83	100	20	100
Education				
Completed grade school	3	4	-	-
Some high school	1	1	-	-
Completed high school	20	24	-	-
Vocational training	18	22	-	-
Some college	22	26	2	10
Bachelor's degree	13	16	4	20
Some graduate work	1	1	3	15
Graduate degree	3	4	11	55
No response	2	2	-	-
Total (education)	83	100	20	100

Table 1.--Continued

Variable	Adult Reader (N)	Adult Reader (%)	Professionals (N)	Professionals (%)
Residence				
On farm	16	19	-	-
Rural non-farm or town of 10,000 or less	18	22	1	5
Town or city of 10,000 to 50,000	36	43	-	-
Metro area city over 50,000	11	13	19	95
No response	2	3	-	-
Total (residence)	83	100	20	100
Level of involvement in Minnesota Extension programs				
Not at all	40	48	-	-
Once or twice a year	22	27	-	-
Once or twice a month	19	23	-	-
No response	2	2	-	-
Total (involvement)	83	100		

(N = 24; 29 percent) although 16 to 20 percent of the adults were also in their forties, fifties, and sixties; in contrast the professional respondents with 65 percent (N = 13) were in their forties. The adult reader sample ranged in age from teens through their seventies, while the professionals were mainly in their thirties and forties.

Sixty-three percent (N = 52) of the adult readers were female while 50 percent (N = 10) of the professional respondents were women.

Eleven (55 percent) of the professionals had graduate degrees; all of the others had at least some college. The adult reader sample had similar distributions in three categories--completing high school, vocational training beyond high school, and some college--as their highest level of educational achievement. These three categories represented 72 percent (N = 60) of the total adult reader sample population. An additional 16 percent (N = 13) had completed a bachelor's degree.

The adult reader sample had representation in each of the four residence categories used in the survey. Thirty-six (43 percent) of the respondents indicated residing in a town or city of 10,000 to 50,000 in population. This was the highest percentage in a given category. An additional thirty-four subjects (41 percent) lived on a farm, in a rural area, or in a town of 10,000 or less. Ninety-five percent (N = 19) of the professionals resided in a metropolitan area of 50,000 or more people.

Forty-eight percent (N = 40) of the adult readers reported no current involvement in Minnesota Extension Service programming. Because their names were selected from an extension newsletter mailing list, one may believe that their only contact with Extension is through print

information. For other levels of involvement with Extension figures, refer to table 1.

Key Findings on Demographics of the Adult Readers

There were twice as many female respondents as there were male respondents. They ranged in age mainly from their thirties to over seventy years of age. They were high school graduates with some post-secondary education. They lived in a variety of residential settings with the largest single group responding living in a town or city of 10,000 to 50,000 (N = 36; 43 percent). Almost half (N = 40; 48 percent) of the adult reader sample reported no involvement in Minnesota Extension Service programs.

Reading Activities

The adult readers were asked to report on their reading behaviors. They were asked to use a six-point rating scale regarding the frequency of reading seven types of print materials: 1 = not at all; 2 = less than twice a year; 3 = less than twice a month; 4 = once or twice a week; 5 = three or four times a week; and 6 = once a day.

In addition, the survey participants were asked to rate the importance of the thirteen reasons for reading. The amount of time the adult readers spent each day reading and the process they used when reading a new piece of information were also requested of the readers.

Types and Frequency of Reading

Percentages were computed from the reported frequencies of reading activities to report the amount of time adults spend reading and with what types of material. Table 2 reports a weekly percentage rate for each type of reading material for both the adult readers and the professionals.

Table 2.--Frequencies of Reading Seven Types of Material

Reading Material	Adult Reader Weekly %	Professional Weekly %
Newspaper	90	100
Magazine	85	90
Section or whole book	40	60
Technical or research	46	55
MN Extension newsletter	14	50
MN Extension fact sheet	19	35
MN Extension bulletin	5	5

The readers and the professionals rated their weekly frequency of use of three of seven reading activities in the same order. The professionals had a slightly higher weekly percentage rate for each item except for the item in seventh place. The adult reader sample and professionals had the same weekly percentage rate for reading Minnesota Extension bulletins. Newspapers were most frequently read by both

sample groups. Newspapers were read in a range from daily to once or twice a week. Magazines were second in weekly frequency of reading with readers reporting the highest rate for reading between once or twice a week and professionals highest rate three or four times a week. The three Extension materials listed had a highest reading frequency rate at less than twice a month for readers and professionals with only one exception. That exception was for the professionals having a 40 percent rate in their reading of extension bulletins (less than twice a year).

Time Spent Reading

Reading takes time. Adults utilize their time in different ways with differing amounts of time given to reading. Table 3 lists the amount of reading time each day for both the adult reader and the professional samples.

Seventy percent of those in the adult reader sample spent less than two hours reading each day, which included work-time reading. The professionals spent more time reading although 55 percent spent less than two hours per day (including work-time).

Processing of New Information

The adults participating in the survey were asked to indicate the process they used when reading a new piece of information. They were able to indicate more than one answer to this question. The results are found in table 4.

Table 3.--Amount of Time Spent in Daily Reading

	Adult Reader		Professionals	
Amount of Time Spent Reading	(N)	(%)	(N)	(%)
Not at all	0	0	0	0
Less than twenty minutes	3	4	0	0
Thirty minutes to one hour	32	38	1	5
One to two hours	23	28	10	50
Two to four hours	18	22	5	25
Four or more hours	6	7	4	20
No response	1	1	0	0
	83	100	20	100

Table 4.--Processes Used with Reading New Information

	Adult Reader (N = 83)		Professionals (N = 20)	
Process Used	(N)	(%)	(N)	(%)
Read headlines only	21	25	10	50
Skim total piece	32	39	14	70
Read sections of interest	36	43	15	75
Read total content of articles of interest	57	69	13	65
Read total information piece	19	23	3	15

The professionals sampled were more apt to read sections of articles, skim a piece, and read headlines only than the adult readers. More adult readers read the total content of articles of interest than the professionals.

Why People Read

People read for a number of reasons. One listing of thirteen reasons was included in the study to get importance ratings from the survey participants. The reasons were rated on a four-point scale with 1 = not important; 2 = slightly important; 3 = very important; and 4 = extremely important. The mean scores and rank order for each reason in presented in table 5 for both the adults readers and the professionals.

The three most important reasons for reading were the same for the adult reader and the professional samples but were not ranked in the same order. The five least important reasons were also shared by both samples, but again there were differences in the rank order.

The three highest ranking reasons for the adults and the professionals responding to the survey rated between extremely and very important. The three reasons were the following: knowing and understanding current happenings, self-development, and immediate personal satisfaction or value.

Table 5.--Mean Importance Rating of Reading Reasons

Reason	Adult Reader (N = 83)		Professionals (N = 20)	
	Rank	Mean	Rank	Mean
Know and understand current happenings	1	3.42	2	3.40
For self-development or improvement	2	3.41	1	3.45
For immediate personal satisfaction or value	3	3.26	3	3.37
Further avocational interests	4	3.18	6	2.90
To meet practical demands of daily living	5	3.06	5	3.00
Satisfy intellectual demands	6	2.73	7	2.85
Meet personal and social demands	7	2.67	8	2.78
To carry on and promote professional or vocational interests	8	2.59	4	3.05
Satisfy spiritual needs	9	2.51	10	2.25
Meet socio-civic needs and demands	10	2.48	9	2.44
Ritual or habit	11	2.25	13	1.70
From a sense of duty	12	1.90	11	1.85
Fill or kill time	13	1.61	12	1.52

The least important reasons for reading given by the respondents were the following: to fill or kill time, from a sense of duty, and as a ritual or habit.

Criteria for Print Information

This section of the study presents the importance ratings given to nineteen criteria for readable print information by the adult readers and professionals responding to the survey. They used the following four-point scale in their responses: 1 = not important; 2 = slightly important; 3 = very important; and 4 = extremely important. A fifth response option was for undecided. Means were calculated for each of the nineteen criteria.

The means and rank orders provided by the eighty-three adult readers and the twenty professionals in the sample are listed in table 6. They were listed in the order of highest importance to the adult readers participating in the survey.

The means of the adult reader and professional sample responding to the survey were very similar. The adult reader ratings for the nineteen criteria ranged from the mean of 3.47 to 1.83 with the professionals having a range of 3.80 to 1.40.

The following three criteria were the most divergent in ranking for the two samples. The professionals ranked headings or headlines six places higher than the adult readers did. The professionals' ranking for headings or

Table 6.--Mean Importance Ratings of Criteria for Educational Print Information (N = 103)

	Adult Reader (N = 83)		Professionals (N = 20)	
Criterion	Rank	Mean	Rank	Mean
Up-to-date information	1	3.47	1	3.70
Information of clear meaning	2	3.39	4	3.60
Information easily understood	3	3.36	2[tie]	3.65
Information aids in problem solving	4	3.22	5	3.47
Information is research based	5	3.17	10	3.10
Readable size type	6	3.15	7	3.37
Illustrations/photographs relate to content and/or theme	7	3.12	6	3.40
Illustrations/photographs are a part of the piece	8[tie]	2.65	11	2.80
Copy has headings or headlines	8[tie]	2.65	2[tie]	3.65
Layout is attractive	10	2.47	9	3.15
Design and layout reflect philosophy of organization	11	2.41	12	2.65
Traditional style type	12	2.35	16	1.95
Large bold headlines	13	2.33	13	2.40
Balanced open layout	14	2.32	8	3.21

Table 6.--Continued.

Criterion	Adult Reader (N = 83) Rank	Mean	Professionals (N = 20) Rank	Mean
Modern style type	15	2.30	17	1.84
Color in design and/or photographs	16	2.06	15	2.05
Copy in two or more column format	17	1.98	14	2.06
Copy in single column format	18	1.96	19	1.40
Color in type or headlines	19	1.83	18	1.80

headlines (mean = 3.65) tied for second place in rank but was in eighth place in the adult readers' ranked listing. Another criterion--a balanced open layout--ranked six places higher on the professionals' list than on the adult readers' list. Thus, this criterion is of greater importance to the graphic designer involved in the design and production of print information than it is to the adult reader. Information that is research-based was the fifth ranked criterion for the adult readers but was in tenth place in rank on the professionals' listing although the mean scores

were very similar with the mean 3.17 for adult readers and 3.10 for the professionals.

The most importance was assigned to the following seven criteria by the adult readers surveyed with each mean rating exceeding 3.00. This rating was between very important and extremely important for them.

These seven highest importance ratings were:

(1) up-to-date information,

(2) information of clear meaning,

(3) information easily understood,

(4) information aids in problem solving,

(5) information that is research based,

(6) readable size type, and

(7) illustrations and photographs relate to content or theme.

The first five relate to the written word while the two listed in sixth and seventh place are graphic concerns.

The professionals also rated the importance of the seven criteria listed above with a mean above 3.00 (very to extremely important). They also have three additions to this listing, which are:

(1) a headings or headlines (mean = 3.64),

(2) a balanced open layout (mean = 3.21), and

(3) an attractive layout (mean = 3.15).

Each of these three criteria involves graphic considerations.

The least important criteria for print information, those with a mean of under 2.00, were the following graphic considerations of the readers:

(1) color in type or headlines (mean = 1.83),

(2) copy in a single column format (mean = 1.96), and

(3) copy in a two or more column format (mean = 1.98).

The professionals added two additional criteria to this listing of least important. These two are the following:

(1) modern style type (mean = 1.84) and

(2) traditional style type (mean = 1.95).

These two typography considerations have been reported to have an effect on the readability of print information.

Summary

The adult readers and professionals sampled were reading newspapers almost daily. Magazines were read once to four times a week. Seventy percent of the adult readers and 50 percent of the professionals spent less than two hours a day reading. The adult readers sampled were most likely to spend their time reading the total content of articles of interest. The professionals, however, were more likely spending their time reading sections of interest, skimming information, and reading headlines.

Both sample groups wanted their information to be up-to-date, clear, and easily understood while aiding them in problem solving. They also wanted the print information to

be of readable size type with illustrations or photographs relating to the content or theme of the given piece of information. They wanted information that had a sound basis. The professionals were also concerned about the graphic design of the piece with layout and headlines important issues.

The respondents were least concerned about color in type or headlines, column format, and type style.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Purpose of the Study

New directions are being taken in the design and development of print information for adults by commercial and educational institutions. The success of printed materials contributing to learning may be determined by the appearance of a given piece. It is not known if the things the adult reader believes are important are used as a basis in designing print educational materials.

The primary purpose of the study was to investigate the importance given by adult readers to various graphic design techniques used in print information. Specifically, the study was undertaken to:

(1) determine what typography/graphic design criteria used in print educational material are important to the adult reader,

(2) compare the ratings of professionals and adult readers regarding content and typography/graphic design criteria,

(3) assess the frequency level of reading of adults, and

(4) determine the importance of the reasons adults give as to why they read.

The overall goal of the writer/educator/communicator is to facilitate learning by providing information in ways that readers find appropriate. Thus, the adult reader's preferences can be a guide in the design and production of educational information.

Methodology of the Study

A twelve-step process was followed in the development and use of a survey on print information with adult readers in a metropolitan county and with professionals engaged in developing print educational material.

The sample of adult readers was drawn from the mailing list of adults who receive educational materials from a county Extension service; this county program served a variety of residents: from people living on farms to those residing in a metropolitan area of 50,000 or more residents.

The forty-six question survey was mailed to 170 adults on February 1, 1989. Information was collected from eighty-three (55 percent) adult readers and twenty (100 percent) professionals who returned the survey. Demographic information, time spent in reading selected print materials, reasons why adults read, and importance ratings on nineteen criteria regarding content and typography/graphic design considerations for print information were collected.

Findings

The data collected from the 103 surveys returned were analyzed, and the following were the major findings:

(1) Sixty-three percent (N = 52) of the adult readers sample were women.

(2) Seventy-two percent (N = 70) of the adult readers' highest level of education was one of the following three:

- completed high school,
- vocational training beyond high school, and
- some college.

(3) Forty-eight percent (N = 40) of the reader sample, although on a mailing list to receive educational materials, reported no other involvement in Minnesota Extension programs at the present time.

(4) The reader sample had about equal representation at the time of the study (approximately 18 percent) in the five age groupings of thirty through seventy.

(5) Forty-three percent (N = 36) of the adult reader sample resided in a town or city of 10,000-50,000.

(6) Newspaper(s) and magazine(s) were the print materials most frequently read. Newspapers were read daily to three or four times a week and magazines were read from once or twice a week to three or four times a week.

(7) Seventy percent (N = 58) of the adult reader sample spent two hours or less reading each day including work time.

(8) Fifty-six percent of the readers reported reading only sections of interest or the total content of articles of interest.

(9) The three highest rated reasons for reading given by adult readers were the following:

- to know current happenings (N = 43; 51 percent),
- for self-development or improvement (N = 33; 48 percent), and
- for immediate personal satisfaction or value (N = 33; 40 percent).

(10) Up-to-date information was rated as the most important criterion for print information by both professionals and adult readers.

(11) Other criteria rated by both sample groups from very important to extremely important were the following:

(a) clear information,

(b) easily understood information,

(c) information that aids in problem solving,

(d) information that is research-based,

(e) readable size print,

(f) headings or headlines, and

(g) illustrations/photographs related to the content or theme.

(12) Graphic design considerations such as color, style of type, and column format were reported to be of little importance to the adult reader.

(13) The adult readers and professionals ranked their frequency rate of use of three of seven reading activities in the same order.

(14) Seventy percent (N = 58) of the adult readers sample spent less than two hours reading compared to 55 percent (N = 11) of the professionals.

(15) The professionals sampled were more apt to read sections of articles, skim a piece, and read headlines only than the readers.

(16) The readers and the professionals who develop print materials agreed on the seven most important and the two least important criteria to consider in developing print materials. The items in which disagreement occurred were headings or headlines, ranked six places higher by the professionals than the adult readers; balanced open layout with professionals also ranking it six places higher than the adult readers; and information that is research-based was five places higher on the

readers' ranking list. But the mean scores were very similar for this last criterion.

Conclusions

Almost two-thirds of this sample of the adult readers who would receive print information from Minnesota Extension Service were women. Their highest level of education was from having completed high school to some college. Their most frequent reading material was the newspaper. They were spending less than two hours reading each day. The Extension newsletter was the only Minnesota Extension Service contact for approximately one half of the sample. They wanted clear and easily understood information that was timely and up-to-date. They did not see a need for color, various type style, and differing page formats.

The adult reader and the professional had very similar reading activities, importance ratings of reading reasons, and spent about the same amount of time reading each day. There was some variation in the manner new information was processed by the professional and the adult reader. Both sample groups shared the seven most important criteria for print materials along with the two least important.

Demographic Implications

If women are the major readers of educational information and Extension newsletters in one Minnesota county, this can also be true for other counties in the

state and for other Extension print information pieces. Gender may need to be considered more closely in the development of print information.

In looking at the level of education of the reader sample one is reminded that the readability level of materials is an important concern for anyone producing print copy. Five percent of the sample reported less than a high school diploma.

With only half of the reader sample involved in other Extension programming efforts, the newsletter appears to be serving as the only educational vehicle for the organization for one half of the persons on the mailing list. This may drive the content decisions as well as the format and graphic style of newsletters in the future.

Reading Activities Implications

Because newspapers and magazines are the most frequently read, those two formats with typography/graphic design guidance may be important in the direction of print educational information. Newspapers and magazines may provide the standards the reader uses in the judgment of all print information. Thus, developers of educational print material should be aware of the trends and changes occurring with these forms.

Because a high percentage of adult readers and professionals spend less than two hours reading each day,

this is not a lot of time for processing many pieces of educational information. Thus, it would be important to use typography/graphic devices that attract and hold an adult reader's interest, although this was not reported as an important criterion by the adult readers.

Reason for Reading Implications

The three highest rated reasons for reading suggest that printed educational information be timely, meets the readers' desire for self-development, and has immediate personal value. Thus, the writer/educator/communicator needs to capitalize on the timeliness of content if he/she wants to meet the immediate needs and interests of readers.

Implications for Graphic Criteria

Up-to-date information, so important to the readers and professionals, needs to be looked at in terms of both content and graphic design presentation.

The use of an out-of-date photograph could jeopardize the written content of a piece; yet it could also set a mood for a piece conveying a historic perspective. One also needs to look at the many ways available to convey clear and easily understood information; this may include photographs, charts, maps, and illustrations rather than the use of the written word.

What makes for readable size print for the reader is yet to be defined definitively. However, this is a concern

of readers and professionals and change as our aging population grows in number.

The graphic design criteria which are low on the readers' importance scale such as color, type style, and column format may be more important to the younger or the less frequent reader. Therefore, more research is needed to base decisions about design and production of print information for alternative audiences.

Recommendations

With newspaper and magazine formats tested daily in the market place and ongoing research efforts of publishing companies, the criteria and standards for design and production of print materials exist and continue to emerge. The design standards for these two print formats can serve as a model for the design and production of print educational copy produced by educational institutions.

The Extension Service has used newsletters to convey information to many different target audiences. The format and quality of these newsletters has varied over time. The individuals who produce Extension newsletters should be aware of current standards used in newspapers and magazines. Extension newsletters could utilize newspaper, magazine, or tabloid formats while providing current educational information. Educational print materials will have to

remain competitive with commercial materials in attracting the reader's attention and interest.

Research studies should be conducted on the interests of adults for utilization in the content planning of print educational materials. Data on the graphic design criteria preferences should be collected from adults for use in the design of an information piece. Other studies could examine what helps people process information easily and what enables communication to take place.

Implications for Further Research

Upon finishing this study, different directions for conducting similar research efforts have surfaced. One option would be to use open-ended interviews with adults regarding the graphic elements they find effective in print information. Another study would be to analyze copies of educational information that adult readers consider outstanding in conveying information. The third study option involves the generation and presentation of two or more print information pieces covering the same content with variations in design and asking adults to indicate their preferences for the varied design elements. Readers can be a valuable resource to be consulted in the planning and design of print educational copy. However, readers need very concrete graphic examples to aid them in defining their views on graphic preferences.

Although this study involved print educational information, an awareness of other forms adults use to gather educational information could be explored. An open-ended interview with adults on the resources used in self-directed learning efforts could have implications for changes in print educational copy as well as in other educational media.

Further research on adult interests and preferences for graphic design options would be helpful to any writer/educator/communicator as they produce effective print information pieces. This information can also be used in the development of other educational methods such as videos.

Personal Conclusion

The graphics of print information will undoubtedly continue to change without a lot of input from the readers of that information.

However, those professionals who are innovative will always stretch the limits to convey new information while giving the reader a new vision. One such innovation--desktop publishing, with its graphic capabilities--was considered in the planning and design of this paper; this was not utilized, however, because of the additional cost involved and the departure from traditional standards for a master's research paper.

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APPENDIX 1

APPROVAL OF THE COMMITTEE

ON THE USE OF HUMAN SUBJECTS IN RESEARCH

RE: "Adult Readers Survey on Print Information"

Dear Ms. Low:

We have received your screened for Exempt Status Notification form and have determined that your study is covered under exemption category:

_____ 1) Conducted in Educational Setting

_____ 2) Educational Tests

__X___ 3) Survey Interview Procedures

_____ 4) Observation

_____ 5) Secondary Use of Data

_____ 6) Federal Research and Demonstration Procedures

_____ 7) Survey/Interview of Public Figures

Upon receipt of this letter, you may begin your research. If you have questions, please call me at 624-9829.

The Committee wishes you every success with this research.

Sincerely,

Moira Keane
Administrative Assistant

MK/jme

APPENDIX 2

COVER LETTER FOR READER SAMPLE

February 1, 1989

Dear

Printed educational materials are prepared by many sources for adults. As you know the Minnesota Extension Service is one of those sources. I want to secure your opinion on some standards to help the Minnesota Extension Service as it continues to develop various materials. It will take 15-20 minutes of your time to complete the ratings.

You are one of a small number of people in Dakota county asked to give ratings on printed educational material criteria. Your name was selected on a random basis from the county's Extension mailing list. To have the results represent the people of your county please complete and return the questionnaire in the envelope provided.

You are assured confidentiality. The questionnaire has an identification number for mailing purposes only. I will use it to check your name off the mailing list upon your survey's return.

The results of my research will be made available to your County Extension staff and the Educational Development System unit of the Minnesota Extension Service.

Thank you for your assistance.

Sincerely,

Jean Low
Research Study Coordinator
Former Hennepin County Extension Agent and EDS Intern/Graphics

APPENDIX 3

COVER LETTER FOR PROFESSIONAL SAMPLE

February 1, 1989

Dear

Printed educational materials are prepared by many sources for adults. As you know the Minnesota Extension Service is one of those sources. As a part of my M.A. research I am collecting ratings of adult readers regarding preferences for print educational material.

I am writing to secure your professional opinion on the same criteria. It will take 15-20 minutes of your time to complete the ratings. Please complete and return the questionnaire in the envelope provided.

You are assured confidentiality. The questionnaire has an identification number for mailing purposes only. I will use it to check your name off the mailing list upon your survey's return.

The results of my research will be made available to the County Extension staff involved and the EDS unit.

Thank you for your assistance.

Sincerely,

Jean Low
Graduate Student, Adult Education, University of Minnesota
Former Hennepin County Extension Agent and EDS Intern/Graphics

APPENDIX 4

ADULT READERS SURVEY ON PRINT INFORMATION

Adult Readers Survey on Print Information

SECTION 1 CONSIDERATIONS FOR READABLE PRINT INFORMATION

There are many challenges facing those developing printed educational materials for adults.

The standards used in production of printed educational copy may have differing degrees of importance for you the reader. This survey has been developed to find out what you prefer. Please read and rate each of the following by circling the number that expresses what you consider important when reading printed educational material.

Importance Rating Scale:
1. Not Important
2. Slightly Important
3. Very Important
4. Extremely Important
5. Undecided

When I read educational material the following are of importance:

	Rating: Circle One				
1. Provides information that is easily understood	1	2	3	4	5
2. Provides information that has clear meaning	1	2	3	4	5
3. Provides information that is based on research	1	2	3	4	5
4. Provides information that is up to date	1	2	3	4	5
5. Provides information that aids in problem solving	1	2	3	4	5
6. The printed type is of a readable size	1	2	3	4	5
7. The style of type used is traditional resembling the familiar textbook type so frequently used	1	2	3	4	5
8. The style of type used is modern, bold and angular (one example used in this survey)	1	2	3	4	5
9. The print copy has headings or headlines	1	2	3	4	5
10. The print copy has large, bold headlines	1	2	3	4	5
11. The layout or organization of the piece has a balance of open space	1	2	3	4	5
12. The layout of the print copy and graphics of the piece is attractive	1	2	3	4	5

	Rating: Circle One				
13. The print copy is in a one column page format	1	2	3	4	5
14. The print copy is in a 2 or more column format (newspaper)	1	2	3	4	5
15. Illustrations or photographs are a part of the educational piece	1	2	3	4	5
16. The illustrations and photographs relate to the content or theme of the topic	1	2	3	4	5
17. Use of color in print type or headlines	1	2	3	4	5
18. Use of color in design or photographs	1	2	3	4	5
19. Design and layout reflects the philosophy of the organization	1	2	3	4	5

SECTION 2 WHY YOU READ EDUCATIONAL MATERIALS

Please rate each of the following reasons why you most often find yourself reading continuing to use the 1-5 point importance rating scale.

Importance of why I read:	Rating: Circle One				
20. A ritual or habit	1	2	3	4	5
21. From a sense of duty	1	2	3	4	5
22. To fill in or kill time	1	2	3	4	5
23. To know and understand current happenings	1	2	3	4	5
24. For immediate personal satisfaction or value	1	2	3	4	5
25. To meet practical demands of daily living	1	2	3	4	5
26. To further avocational interests	1	2	3	4	5
27. To carry on and promote professional or vocational interests	1	2	3	4	5
28. To meet personal and social demands	1	2	3	4	5
29. To meet socio-civic needs and demands	1	2	3	4	5
30. For self-development or improvement	1	2	3	4	5
31. To satisfy strictly intellectual demands	1	2	3	4	5
32. To satisfy spiritual needs	1	2	3	4	5

SECTION 3 READING ACTIVITIES RATING

Please answer the following questions by circling the number that reflects your present reading activities rating.

Activity Rating Scale:
1. Not at all
2. Less than twice a year
3. Less than twice a month
4. Once or twice a week
5. Three or four times a week
6. Once a day

Reading Activities:	**Rating: Circle One**					
33. Read newspaper(s)	1	2	3	4	5	6
34. Read magazine(s)	1	2	3	4	5	6
35. Read section or whole book(s)	1	2	3	4	5	6
36. Read technical or research information	1	2	3	4	5	6
37. Read MN Extension Service one page fact sheet	1	2	3	4	5	6
38. Read MN Extension Service bulletin (17 or more pages)	1	2	3	4	5	6
39. Read an Extension newsletter	1	2	3	4	5	6

Please answer the questions by circling the number or numbers of the answer that apply for you.

40. Process you find yourself usually using when reading a new piece of information. (may have more than one answer)
    1. Read headlines only
    2. Skim total information piece
    3. Read sections of articles of interest only
    4. Read total content of articles of interest
    5. Read total information piece

41. How much time do you find yourself reading each day including work reading time?
    1. Not at all
    2. A few minutes (less than 20 minutes)
    3. 30 minutes to 1 hour
    4. 1 - 2 hours
    5. 2 - 4 hours
    6. 4 or more hours

SECTION 4 GENERAL INFORMATION [67]

The following information is for research purposes. Please answer the questions by circling the number of the answer that applies for you.

42. AGE:
    1. Teens
    2. Twenties
    3. Thirties
    4. Forties
    5. Fifties
    6. Sixties
    7. Seventy or over

43. SEX:
    1. Male
    2. Female

44. EDUCATION: What is your highest level?
    1. Some Grade School
    2. Completed Grade School
    3. Some High School
    4. Completed High School
    5. Vocational Training beyond High School
    6. Some College
    7. Bachelor's Degree
    8. Some Graduate Work
    9. Graduate Degree

45. RESIDENCE:
    1. On a farm
    2. Rural non farm or town of 10,000 or less
    3. In a town or city of 10,000 to 50,000
    4. In a metro area in a city of over 50,000

46. LEVEL OF INVOLVEMENT IN MINNESOTA EXTENSION SERVICE PROGRAMMING
    1. Not at all
    2. Once or twice a year
    3. Once or twice a month
    4. Once a week

Thank you for completing the 46 questions. Please check to see that all of them have been answered.

Return in envelope provided by February 8, 1989.

To: Jean Low
350 Shelard Parkway
#107
St. Louis Park, MN 55426

APPENDIX 5

REMINDER CARD

Looking forward to
receiving your completed survey
on print information. If you
have misplaced it call 546-8547.

Jean

APPENDIX 6

SURVEY REPORT

Section 1. Considerations for readable print information

Rating Scale:
1 = not important
2 = slightly important
3 = very important
4 = extremely important
5 = undecided
NR = no response

	Readers			Professional	
	N	%		%	N
1. Provides information that is easily understood	3	4	1	-	-
	2	2	2	5	1
	39	47	3	25	5
	37	45	4	70	14
	1	1	5	-	-
	-	1	NR	-	-
Mean:	3.360			3.650	
2. Provides information that has clear meaning	3	4	1	-	-
	-	-	2	-	-
	40	48	3	10	2
	37	45	4	90	18
	2	2	5	-	-
	-	1	NR	-	-
Mean:	3.390			3.600	
3. Provides information that is based on research	2	2	1	-	-
	12	15	2	25	5
	35	42	3	40	8
	29	35	4	35	7
	3	4	5	-	-
	-	2	NR	-	-
Mean:	3.170			3.100	

	Readers			Professional	
	N	%		%	N
4. Provides information that is up-to-date	3	4	1	-	-
	4	5	2	5	1
	24	29	3	20	4
	46	55	4	75	15
	4	5	5	-	-
	-	2	NR	-	-
Mean:	3.460			3.700	
5. Provides information that aids in problem solving	1	1	1	-	-
	11	13	2	-	-
	36	44	3	50	10
	30	36	4	45	9
	2	2	5	5	1
	-	4	NR	-	-
Mean:	3.220			3.470	
6. The printed type is of a readable size	5	6	1	-	-
	11	12	2	5	1
	31	37	3	50	10
	33	41	4	40	8
	1	1	5	-	-
	-	2	NR	5	-
Mean:	3.150			3.368	
7. The style of type used is traditional resembling the familiar textbook type so frequently used	15	18	1	30	6
	25	30	2	45	9
	24	29	3	25	5
	8	10	4	-	-
	7	8	5	-	-
	-	5	NR	-	-
Mean:	2.347			1.950	
8. The style of type used is modern, bold, and angular	18	22	1	35	7
	26	31	2	50	10
	25	30	3	-	-
	8	10	4	10	2
	5	6	5	5	1
	-	1	NR	-	-
Mean:	2.298			1.842	

	Readers			Professional	
	N	%		%	N
9. The print copy has headings or headlines	9	11	1	-	-
	21	26	2	5	1
	40	48	3	65	13
	11	13	4	30	6
	1	1	5	-	-
	-	1	NR	-	-
Mean:	2.654			3.650	
10. The print copy has large, bold headlines	16	19	1	5	1
	28	34	2	65	12
	28	34	3	25	5
	7	8	4	10	2
	3	4	5	-	-
	-	1	NR	-	-
Mean:	2.329			2.400	
11. The layout or organization of the piece has a balance of open space	12	14	1	-	-
	33	40	2	10	2
	29	35	3	55	11
	4	5	4	30	6
	3	4	5	5	1
	-	2	NR	-	-
Mean:	2.320			3.210	
12. The layout of the print copy and graphics of the piece is attractive	10	12	1	-	-
	29	35	2	15	3
	31	37	3	55	11
	8	10	4	30	6
	3	4	5	-	-
	-	2	NR	-	-
Mean:	2.474			3.150	
13. The print copy is a one-column page format	28	33	1	45	9
	26	31	2	30	6
	19	23	3	-	-
	3	4	4	-	-
	4	5	5	20	4
	-	4	NR	5	-
Mean:	1.960			1.400	

	Readers			Professional	
	N	%		%	N
14. The print copy is in a two- or more column format (newspaper)	23	28	1	15	3
	29	34	2	55	11
	16	19	3	10	2
	3	4	4	5	1
	9	11	5	15	3
	-	4	NR	15	3
Mean:	1.990			2.060	
15. The illustrations or photographs are a part of the educational piece	8	10	1	-	-
	24	29	2	25	5
	33	40	3	70	14
	13	15	4	5	1
	2	2	5	-	-
	-	4	NR	-	-
Mean:	2.650			2.800	
16. The illustrations and photographs relate to the content or theme of the topic	3	4	1	-	-
	11	13	2	5	1
	38	46	3	50	10
	26	31	4	45	9
	2	2	5	-	-
	-	4	NR	-	-
Mean:	3.120			3.400	
17. Use of color in print type or headlines	29	35	1	30	6
	34	41	2	60	12
	14	17	3	10	2
	1	1	4	-	-
	2	2	5	-	-
	-	4	NR	-	-
Mean:	1.830			1.800	
18. Use of color in design or photographs	22	27	1	25	5
	33	39	2	50	10
	17	20	3	20	4
	5	6	4	5	1
	3	4	5	-	-
	-	4	NR	-	-
Mean:	2.060			2.050	

	Readers			Professional	
	N	%		%	N
19. Design and layout reflect the philosophy of the organization	14	17	1	10	2
	23	28	2	25	5
	30	36	3	35	7
	7	8	4	15	3
	6	7	5	15	3
	-	4	NR	-	-
Mean:	2.410			2.650	

Section 2. Why you read educational material

	Readers			Professional	
	N	%		%	N
20. A ritual or habit	24	29	1	40	8
	17	20	2	50	10
	27	32	3	10	2
	8	10	4	-	-
	4	5	5	-	-
	-	4	NR	-	-
Mean:	2.250			1.700	
21. From a sense of duty	31	37	1	35	7
	26	31	2	50	10
	16	19	3	10	2
	4	5	4	5	1
	3	4	5	-	-
	-	4	NR	-	-
Mean:	1.900			1.850	
22. To fill in or kill time	43	52	1	55	11
	22	26	2	30	6
	11	15	3	10	2
	1	1	4	-	-
	4	5	5	5	1
	-	2	NR	-	-
Mean:	1.610			1.520	

	Readers			Professional	
	N	%		%	N
23. To know and understand current happenings	3	4	1	-	-
	4	5	2	5	1
	28	3	3	50	10
	43	51	4	45	9
	2	2	5	-	-
	-	4	NR	-	-
Mean:	3.420			3.400	
24. For immediate personal satisfaction or value	3	4	1	-	-
	7	7	2	5	1
	33	40	3	50	10
	33	40	4	40	8
	3	4	5	5	1
	-	5	NR	-	-
Mean:	3.260			3.370	
25. To meet practical demands of daily living	4	5	1	-	-
	13	16	2	25	5
	34	41	3	45	9
	26	31	4	25	5
	5	5	5	5	1
	-	2	NR	-	-
Mean:	3.060			3.000	
26. To further avocational interests	3	4	1	5	1
	12	14	2	25	5
	29	35	3	45	9
	32	38	4	25	5
	3	4	5	-	-
	-	5	NR	-	-
Mean:	3.180			2.900	
27. To carry on and promote professional or vocational interests	10	12	1	-	-
	10	12	2	20	4
	27	32.5	3	50	10
	27	32	4	25	5
	6	7	5	5	-
	-	4	NR	-	-
Mean:	2.590			3.050	

	Readers			Professional	
	N	%		%	N
28. To meet personal and social demands	5	6	1	-	-
	29	35	2	35	7
	31	37	3	40	8
	13	16	4	15	3
	3	4	5	10	2
	-	2	NR	-	-
Mean:	2.670			2.780	
29. To meet socio-civic meeds and demands	13	16	1	15	3
	24	29	2	30	6
	27	32	3	35	7
	11	13	4	10	2
	5	6	5	10	2
	-	4	NR	-	-
Mean:	2.480			2.440	
30. For self-development or improvement	3	4	1	-	-
	2	2	2	-	-
	33	40	3	55	11
	40	48	4	45	9
	3	4	5	-	-
	-	2	NR	-	-
Mean:	3.410			3.450	
31. To satisfy strictly intellectual demands	6	7	1	-	-
	24	29	2	40	8
	29	35	3	35	7
	16	19	4	25	5
	5	6	5	-	-
	-	4	NR	-	-
Mean:	2.730			2.850	
32. To satisfy spiritual needs	17	20	1	25	5
	22	27	2	35	7
	21	25	3	30	6
	18	22	4	10	2
	3	4	5	-	-
	-	2	NR	-	-
Mean:	2.510			2.250	

Section 3. Reading activities rating

Rating Scale:
1 = not at all
2 = less than twice a year
3 = less than twice a month
4 = once or twice a week
5 = three or four times a week
6 = once a day
NR = no response

	Readers			Professional	
	N	%		%	N
33. Read newspaper(s)	3	4	1	-	-
	1	1	2	-	-
	3	4	3	-	-
	15	18	4	15	3
	12	14	5	35	7
	48	58	6	50	10
	-	1	NR	-	-
34. Read magazine(s)	2	2	1	-	-
	1	1	2	-	-
	9	11	3	10	2
	32	39	4	35	7
	26	31	5	40	8
	12	15	6	15	3
	-	1	NR	-	-
35. Read section or whole book(s)	5	6	1	-	-
	17	20	2	15	3
	27	33	3	25	5
	12	14	4	35	7
	14	17	5	15	3
	7	9	6	10	2
	-	1	NR	-	-
36. Read technical or research information	6	7	1	-	-
	13	16	2	15	3
	24	29	3	30	6
	23	28	4	35	7
	12	14	5	20	4

	Readers			Professional	
	N	%		%	N
36. (continued)	3	4	6	-	-
	-	2	NR	-	-
37. Read Minnesota Extension Service one-page fact sheet	11	13	1	10	2
	9	11	2	15	3
	43	52	3	35	7
	13	16	4	30	6
	1	1	5	5	1
	2	2	6	-	-
	-	5	NR	5	-
38. Read Minnesota Extension Service Bulletin	17	20	1	25	5
	18	22	2	40	8
	38	46	3	25	5
	3	4	4	5	1
	1	1	5	-	-
	-	-	6	-	-
	-	7	NR	5	-
39. Read an Extension newsletter	7	8	1	-	-
	10	12	2	10	2
	51	61	3	35	7
	9	11	4	50	10
	2	2	5	-	-
	1	1	6	-	-
	-	5	NR	5	-
40. Process you find yourself usually using when reading a new piece of information:					
(1) Read headlines only	21	12	-	18	10
(2) Skim total information piece	32	19	-	25	14
(3) Read sections of articles of interest only	36	22	-	27	15

	Readers			Professional	
	N	%		%	N
(4) Read total content of articles of interest	57	34	-	24	13
(5) Read total information piece	19	12	-	5	3
	-	1	NR	-	-
41. How much time do you find yourself reading each day including work reading time?					
(1) Not at all	-	-	-	-	-
(2) A few minutes (less than twenty minutes	3	4	-	-	-
(3) Thirty minutes to one hour	32	38	-	5	1
(4) One to two hours	23	28	-	50	10
(5) Two to four hours	18	22	-	25	5
(6) Four or more hours	6	7	-	20	4
	-	1	NR	-	-
Section 4. General information					
42. Age:					
(1) Teens	1	1	-	-	-
(2) Twenties	3	4	-	5	1
(3) Thirties	24	29	-	20	4
(4) Forties	13	16	-	65	13
(5) Fifties	13	16	-	5	1
(6) Sixties	17	20	-	5	1
(7) Seventy or over	11	13	-	-	-
	-	1	NR	-	-
43. Sex:					
(1) Male	29	35	-	50	10
(2) Female	52	63	-	50	10
	-	2	NR	-	-
44. Education:					
(1) Some grade school	-	-	-	-	-
(2) Completed grade school	3	4	-	-	-

	Readers			Professional	
	N	%		%	N
44. (continued)					
(3) Some high school	1	1	-	-	-
(4) Completed high school	20	24	-	-	-
(5) Vocational training beyond high school	18	22	-	-	-
(6) Some college	22	26	-	10	2
(7) Bachelor's degree	13	16	-	20	4
(8) Some graduate work	1	1	-	15	3
(9) Graduate degree	3	4	-	55	11
	-	2	NR	-	-
45. Residence:					
(1) On a farm	16	19	-	-	-
(2) Rural non-farm or town of 10,000 or less	18	22	-	5	1
(3) In a town or city of 10,000 to 50,000	36	43	-	-	-
(4) In a metro area in a city of over 50,000	11	13	-	95	19
	-	2	NR	-	-
46. Level of involvement in Minnesota Extension service programming:					
(1) Not at all	40	48	-	-	-
(2) Once or twice a year	22	27	-	10	2
(3) Once or twice a month	19	23	-	-	-
(4) Once a week	-	-	-	65	13
	2	-	-	25	5
	-	2	NR	-	-

APPENDIX 7

BUDGET

Cost--other than individual man hours of researcher:	
ERIC--Database search service	$18.21
Printing of survey	
Typesetting	$25.00
Cover Letters	$10.00
Ten sets of survey for pre-test	$ 2.00
Survey (four hundred sheets, two sides)	$40.00
Two hundred cover letters	$10.00
Envelopes	$15.00
Tax	$ 6.12
Envelopes	$ 7.34
Postage	
One hundred seventy mailing and One hundred seventy return mailing	$85.00
One hundred and five 15¢ postcard reminders	$15.75
Three phone requests for survey	$ 1.50
Total	$235.92